

CLAIMS

1. An image processing apparatus for subjecting image data of a base band or image data, which is coded up to a midstep, to coding processing up to a midstep or to perfect coding processing, comprising:

acquisition means for acquiring information as to coding executed to the image data in the past; and

control means for controlling the coding processing up to a midstep or the perfect coding processing of the image data of the base band or the image data coded up to the midstep,

wherein, when a coding picture type is a predetermined picture type, the control means determines whether or not the information as to coding is to be used to the coding processing based on the information as to the coding acquired by the acquisition means and on a condition as to the coding processing executed to the image data by the image processing apparatus.

2. An image processing apparatus according to claim 1, wherein the control means determines whether or not the information as to coding is to be used based on whether or not the phase of a macro block in the past coding described in the information as to coding agrees with the phase of the macro block of the coding processing.

3. An image processing apparatus according to claim 1,  
wherein the control means determines whether or not the  
information as to coding is to be used based on whether or  
not the amount of generated code in the decoding described  
5 in the information as to coding is equal to or less than a  
predetermined value.

4. An image processing apparatus according to claim 1,  
10 further comprising output means which is supplied with first  
coding data supplied to another image processing apparatus  
that decodes the image data and with second coding data  
created by the coding processing and outputs the first  
coding data or the second coding data,

15 wherein the control means further controls the output  
means and causes the output means to output the first coding  
data when the phase of the macro block in the past coding  
described in the information as to coding agrees with the  
phase of the macro block of the coding processing, the  
20 amount of the generated code in the decoding described in  
the information as to coding is equal to or less than the  
predetermined value, and the position and the magnitude of  
an image frame in the past coding described in the  
information as to coding agree with those of the coding  
25 processing.

5. An image processing method of an image processing apparatus for subjecting image data of a base band or image data, which is coded up to a midstep, to coding processing up to a midstep or to perfect coding processing, comprising:  
5 acquiring information as to coding executed to the image data in the past; and

determining, when a coding picture type is a predetermined picture type, whether or not the information  
10 as to coding is to be used to the coding processing based on the information as to the coding acquired by the acquisition means and on a condition as to the coding processing executed to the image data by the image processing apparatus.

15 6. A recording medium having a program which is recorded on the recording medium, can be read by a computer, is supplied with information as to coding executed to image data in the past, and causes the computer to execute coding processing up to a midstep or perfect coding processing of  
20 image data of a base band or image data, which is coded up to a midstep, wherein the program comprises:

a first determination step for determining whether or not a coding picture type is a predetermined picture type;

a comparison step for comparing, when it is determined  
25 by the processing at the first determination step that the

picture type is the predetermined picture type, acquired information as to the coding with a condition as to the coding processing; and

5 a second determination step for determining whether or not the information as to the coding is to be used to the coding processing based on a result of comparison of the processing executed at the comparison step.

10 7. A program, which is supplied with information as to coding executed to image data in the past causes a computer to execute coding processing up to a midstep or perfect coding processing of image data of a base band or image data, which is coded up to a midstep, comprising:

15 a first determination step for determining whether or not a coding picture type is a predetermined picture type;

a comparison step for comparing, when it is determined by the processing at the first determination step that the picture type is the predetermined picture type, acquired information as to the coding with a condition as to the coding processing; and

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a second determination step for determining whether or not the information as to the coding is to be used to the coding processing based on a result of comparison of the processing executed at the comparison step.

8. An image processing apparatus for transforming image data, comprising:

decoding means for decoding the image data, which is supplied thereto, perfectly or imperfectly; and

5 coding means for subjecting the image data of a base band, which is perfectly decoded by the decoding means, or the image data, which is created by being imperfectly decoded by the decoding means and coded up to a midstep, to coding processing up to a midstep or to perfect coding  
10 processing,

wherein the coding means comprises:

acquisition means for acquiring information as to coding executed to the image data in the past; and

control means for controlling the coding processing of  
15 the image data of the base band or the image data coded up to the midstep, and

the control means determines, when a coding picture type is a predetermined picture type, whether or not the information as to coding is to be used to the coding  
20 processing based on the information as to the coding acquired by the acquisition means and on a condition as to the coding processing.

9. An image processing method of an image processing  
25 apparatus for transforming image data, comprising:

a decoding step for decoding the image data, which is supplied thereto, perfectly or imperfectly; and

a coding step for subjecting the image data of a base band, which is perfectly decoded by processing of the decoding step, or the image data, which is created by being imperfectly decoded by processing of the decoding step and coded up to a midstep, to coding processing up to a midstep or to perfect coding processing,

wherein the processing at the coding step comprises:

a first determination step for determining whether or not a coding picture type is a predetermined picture type;

a comparison step for comparing, when it is determined by the processing at the first determination step that the picture type is the predetermined picture type, acquired information as to the coding with a condition as to the coding processing; and

a second determination step for determining whether or not the information as to the coding is to be used to the coding processing based on a result of comparison of the processing executed at the comparison step.

10. A recording medium having a program which is recorded on the recording medium, can be read by a computer, and causes the computer to execute processing for transforming image data, wherein the program comprises:

a decoding step for decoding the image data, which is supplied thereto, perfectly or imperfectly; and

a coding step for subjecting the image data of a base band, which is perfectly decoded by processing of the decoding step, or the image data, which is created by being imperfectly decoded by processing of the decoding step and coded up to a midstep, to coding processing up to a midstep or to perfect coding processing,

wherein the processing at the coding step comprises:

a first determination step for determining whether or not a coding picture type is a predetermined picture type;

a comparison step for comparing, when it is determined by the processing at the first determination step that the picture type is the predetermined picture type, acquired information as to the coding with a condition as to the coding processing; and

a second determination step for determining whether or not the information as to the coding is to be used to the coding processing based on a result of comparison of the processing executed at the comparison step.

11. A program for causing a computer to execute processing for transforming image data, comprising:

a decoding step for decoding the image data, which is supplied thereto, perfectly or imperfectly; and

a coding step for subjecting the image data of a base band, which is perfectly decoded by processing of the decoding step, or the image data, which is created by being imperfectly decoded by processing of the decoding step and  
5 coded up to a midstep, to coding processing up to a midstep or to perfect coding processing,

wherein the processing at the coding step comprises:

a first determination step for determining whether or not a coding picture type is a predetermined picture type;

10 a comparison step for comparing, when it is determined by the processing at the first determination step that the picture type is the predetermined picture type, acquired information as to the coding with a condition as to the coding processing; and

15 a second determination step for determining whether or not the information as to the coding is to be used to the coding processing based on a result of comparison of the processing executed at the comparison step.

20 12. An image recording apparatus for recording image data, comprising:

decoding means for decoding the image data, which is supplied thereto, perfectly or imperfectly;

coding means for subjecting the image data of a base  
25 band, which is perfectly decoded by the decoding means, or



the image data, which is created by being imperfectly decoded by the decoding means and coded up to a midstep, to coding processing up to a midstep or to perfect coding processing; and

5        recording control means for controlling the record of the image data coded by the coding means,

         wherein the coding means comprises:

         acquisition means for acquiring information as to coding executed to the image data in the past; and

10        control means for controlling the coding processing of the image data of the base band or the image data coded up to the midstep, and

         wherein, when a coding picture type is a predetermined picture type, the control means determines whether or not  
15        the information as to coding is to be used to the coding processing based on the information as to the coding acquired by the acquisition means and on a condition as to the coding processing.

20        13. An information recording apparatus according to claim 12, wherein the recording control means controls recording of the image data coded by the coding means and information as to coding executed to the image data at different positions.

14. An image recording method of an image recording apparatus for recording image data, comprising:

a decoding step for decoding the image data, which is supplied thereto, perfectly or imperfectly;

5 a coding step for subjecting the image data of a base band, which is perfectly decoded by processing of the decoding step, or the image data, which is created by being imperfectly decoded by processing of the decoding step and coded up to a midstep, to coding processing up to a midstep  
10 or to perfect coding processing; and

a recording control step for controlling the recording of the image data coded by the processing at the coding step,

wherein the processing at the coding step comprises:

a first determination step for determining whether or  
15 not a coding picture type is a predetermined picture type;

a comparison step for comparing, when it is determined by the processing at the first determination step that the picture type is the predetermined picture type, acquired information as to the coding with a condition as to the  
20 coding processing; and

a second determination step for determining whether or not the information as to the coding is to be used to the coding processing based on a result of comparison of the processing executed at the comparison step.

15. An image reproducing apparatus for reproducing image data, comprising:

reproduction means for reproducing the image data recorded to a predetermined recording medium;

5        decoding means for decoding the image data reproduced by the reproduction means perfectly or imperfectly; and

coding means for subjecting the image data of a base band, which is perfectly decoded by the decoding means, or the image data, which is created by being imperfectly  
10 decoded by the decoding means and coded up to a midstep, to coding processing up to a midstep or to perfect coding processing,

wherein the coding means comprises:

acquisition means for acquiring information as to  
15 coding executed to the image data in the past; and

control means for controlling the coding processing of the image data of the base band or the image data coded up to the midstep, and

wherein the control means determines, when a coding  
20 picture type is a predetermined picture type, whether or not the information as to coding is to be used to the coding processing based on the information as to the coding acquired by the acquisition means and on a condition as to the coding processing.

16. An information reproducing method of an information reproducing apparatus for reproducing image data, comprising:

a reproduction step for reproducing the image data  
5 recorded to a predetermined recording medium;

a decoding step for decoding the image data reproduced by the reproduction means perfectly or imperfectly; and

a coding step for subjecting the image data of a base band, which is perfectly decoded by processing of the  
10 decoding step, or the image data, which is created by being imperfectly decoded by the decoding step and coded up to a midstep, to coding processing up to a midstep or to perfect coding processing,

wherein the processing at the coding step comprises:

15 a first determination step for determining whether or not a coding picture type is a predetermined picture type;

a comparison step for comparing, when it is determined by the processing at the first determination step that the picture type is the predetermined picture type, acquired  
20 information as to the coding with a condition as to the coding processing; and

a second determination step for determining whether or not the information as to the coding is to be used to the coding processing based on a result of comparison of the  
25 processing executed at the comparison step.